



Engaging Emerging Communities in Access Grid

Members and Collaborators
of the Minority Serving
Institutions Consortium



MSIC Overview

Stephenie McLean

Texas Advanced Computing
Center

EOT-PACI/ANMSI: MSI AG Deployment Project



■ **Question:**

How can we broaden participation of underrepresented groups in STEM disciplines and increase the number of MSIs engaged in high performance computing?

■ **Purpose:**

Create a test bed to learn the effectiveness of the AG in underrepresented communities(2003)

■ **Goal:**

To expand the AG user base to assist with further collaboration and research opportunities with MSIs.



EOT-PACI/ANMSI: MSI AG Deployment Project



■ Criteria for deployment

- ☐ AGs must be deployed in the three MSI communities (HBCU, HSIs, TCU)
- ☐ Network capability in place
- ☐ Institutional support
- ☐ Demonstrated progress in high end computing
- ☐ Strong local leadership to drive the project

■ MSI AG Sites:

- ☐ Bethune-Cookman College
- ☐ Clark-Atlanta University
- ☐ Florida A&M University
- ☐ Florida International University
- ☐ Fond du Lac Tribal and Community College
- ☐ Our Lady of the Lake University
- ☐ University of Texas-El Paso



EOT-PACI/ANMSI: MSI AG Deployment Project



■ MSI AG Activities:

- AG Training, Workshop, Weekly Meetings, Seminars

■ AG Support Project:

- Served as a follow-up evaluation of the AG Deployment Project.





Models for Supporting New Technologies in Emerging Communities

Jennifer Teig von Hoffman
Boston University

The Basic Question



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- How do we support deployment of new technologies in emerging communities, where support may have traditionally been lacking?



SGER: MSIC AG Support Pilot Project



- A series of visits were made to five MSIC members
 - Develop bridges with AG community at large
 - Encourage executive awareness
 - Provide technical support and training (group and/or one-on-one)
 - Develop models for future and ongoing support
- Funded by National Science Foundation SCI division, award 0439202, with additional funding from NCSA



Developing Models



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- Models were developed over the course of these visits, based on anecdotal evidence
- Primary contact at each site also participating in pre- and post-visit surveys
 - ☐ One week before and 6 months after
 - ☐ Not interested in post-visit bump – we want to see long-term impact or lack thereof



The Sites Visited



- Tribal Virtual Network
 - Jicarilla Apache Cultural Center; Indian Pueblo Cultural Center; Poeh Center; Jemez Department of Education; University of New Mexico
- Florida A&M University
- Our Lady of the Lake University
- Bethune Cookman College
- Florida International University



Accompanying me (each at one site or more)



- Stephenie McLean, Texas Advanced Computing Center (was from NCSA at the time of the visits)
- Michael Miller, NCSA
- Julie Mullen, Worcester Polytechnic Institute



Model One: Workshop



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- Distributed workshop on “Discovering Collaborative Workspaces in Research and Education”
- Instructors co-located with groups of participants
- Agenda (each day one 2-hour session)
 - Day One: “Introduction to AG and Collaborative Education”
 - Day Two: Distributed working groups
 - Day Three: Reports back



Model Two: Techs + Truck



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- Simple but true: Sometimes you gotta get in the car (or hop on a plane)
 - Some problems easier to diagnose/fix in person
 - Sometimes all that may be needed is a small piece of equipment



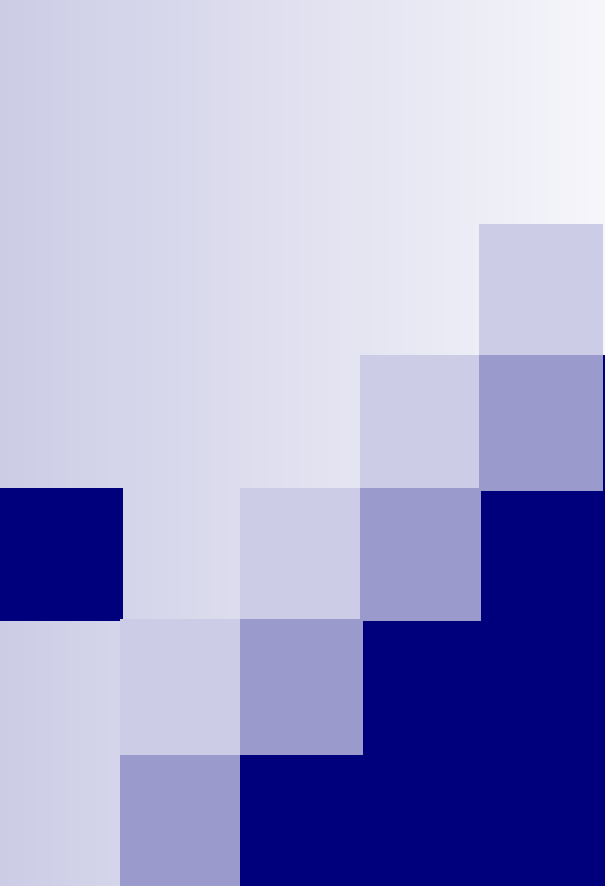
Paper Available



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- “Models for Supporting New Technologies in Emerging Communities” in Retreat Proceedings
- Overview of the sites and visits
- Detailed exploration of the models, especially the workshop
- Appendices, including pre-visit survey data





Innovative use of AG at MSIC Member Institutions

Alson Been

Bethune-Cookman College

MSIC AG use and collaboration



- How do you use these new technologies to collaborate in the various disciplines when it is very new to you?



MSIC AG use and collaboration



- The grid provides access; it provides ways to link high-end facilities with data, visualization, and other resources. It provides a way to link small resources with larger resources. The grid includes a wide spectrum of resources and this is really clear from the various articles and demonstrations.



Tribal Virtual Network



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- Advancing Technology In Native American Communities
- The TVN was conceptualized in 2001 by Dr. Maria Williams and a consortium of tribal members in New Mexico
- Funded by Department of Commerce Technology Opportunities Program Grant
- TVN built upon Cyber-Sovereignty



MSIC AG use and collaboration TVN

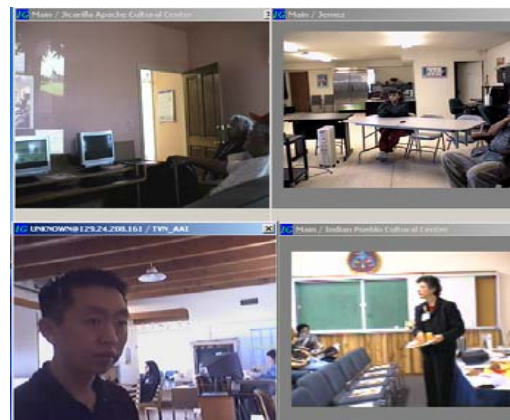


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- Weekly TVN meetings held over the AG
- National Indian Council on Aging exercise demonstrations
- American Diabetes Awareness training sessions



(November 10, 2003: First time all TVN members online)



March 9: American Diabetes Awareness Training



University of Hawaii



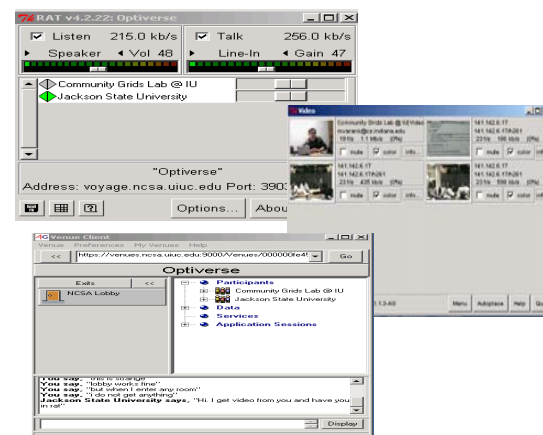
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- **HPCMPO PET Project Using Access Grid Technology**
- **PET Summer Institute Collaboration over AG node - 2004**



HPCMPO PET Project Using Access Grid Technology

- PI: Dr. Robert Whalin, Jackson State University
- Collaborated with Prof. Geoffrey Fox, Indiana University
- Goal: Provide instruction on high performance and parallel computing topics to JSU via Access Grid.



Delivered 4 Access Grid seminars on current topics in distributed computing

Available from <http://grids.ucs.indiana.edu/ptliupages/presentations>

Spring 2005 course taught in conjunction with JSU.

18 students enrolled, both graduate and undergraduate.

Current course material and video archives available from

<http://grids.ucs.indiana.edu/ptliupages/jsucourse2005>.

Course Wiki: <http://ripvanwinkle.ucs.indiana.edu:8668/space/start>

PET Summer Institute Collaboration over AG node - 2004

- Two Summer Institutes:
 - Florida International University
 - University of Hawaii
- Shared in Final Presentations over the Access Grid
- Students from common home schools
- Greetings from the Director over AG



Benefits to Students:

- Connects to other researchers and programs that otherwise programs cannot afford
- Exposes them to new and exciting technology – shows them what can be done

Plans for Summer 2005:

- Lectures over the AG
- Collaborate with Central State Summer Institute if possible



MSIC AG use and collaboration Summer 2004



- Bethune-Cookman College, Bowie State University, JEF, NCSA, Florida International University, and the University of Illinois at Urbana-Champaign



The Joint Educational Facilities (JEF) Summer 2004



- A group of high school students from the Washington, D.C., area gained supercomputing skills this summer through a program sponsored by NCSA and by the Joint Educational Facilities (JEF).

With guidance from instructors and mentors from Bethune-Cookman College, Bowie State University, JEF, NCSA, Florida International University, and the University of Illinois at Urbana-Champaign, the students tackled projects rendering and animation, optical character recognition, genetic algorithms, and cluster security.

- The students have had access to a 26-processor high-performance computing cluster at TRECC (the Technology Research, Education and Commercialization Center in DuPage County, Illinois). TRECC is a program of the University of Illinois that is administered by NCSA and is funded by the Office of Naval Research.



The Joint Educational Facilities (JEF) presentations



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The Joint Educational Facilities (JEF) participants



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Discussion/Q&A



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- What software enhancements would benefit the organizations and institutions you represent?
- What success stories or lessons learned would you like to share?

